

f =

$$\begin{aligned} & d_{cu} / (c_{cu} - B * c_{bal})^{ETAc} - la_{cu} - (B * BETTA * d_{cup}) / (c_{cup} - B * c_{cu})^{ETAc} \\ & \quad la_{cu} * w_{cu} - (THETA * d_{cu}) / (1 - n_{cu})^{ETAl} \\ & \quad BETTA * la_{cup} * (rk_{cup} - DELTA + 1) - la_{cu} \\ & \quad (a_{cu} * n_{cu}^{ALFA} * (ALFA - 1)) / (k_{cu}^{ALFA} * rk_{cu}) + 1 \\ & \quad w_{cu} - ALFA * a_{cu} * k_{cu}^{(1 - ALFA)} * n_{cu}^{(ALFA - 1)} \\ & \quad \quad y_{cu} - iv_{cu} - c_{cu} \\ & \quad a_{cu} * k_{cu}^{(1 - ALFA)} * n_{cu}^{ALFA} - y_{cu} \\ & \quad \quad iv_{cu} - k_{cup} - k_{cu} * (DELTA - 1) \\ & \quad \quad \quad c_{cu} - c_{balp} \\ & \quad \quad \quad RHOA * \log(a_{cu}) - \log(a_{cup}) \\ & \quad \quad \quad RHOD * \log(d_{cu}) - \log(d_{cup}) \end{aligned}$$